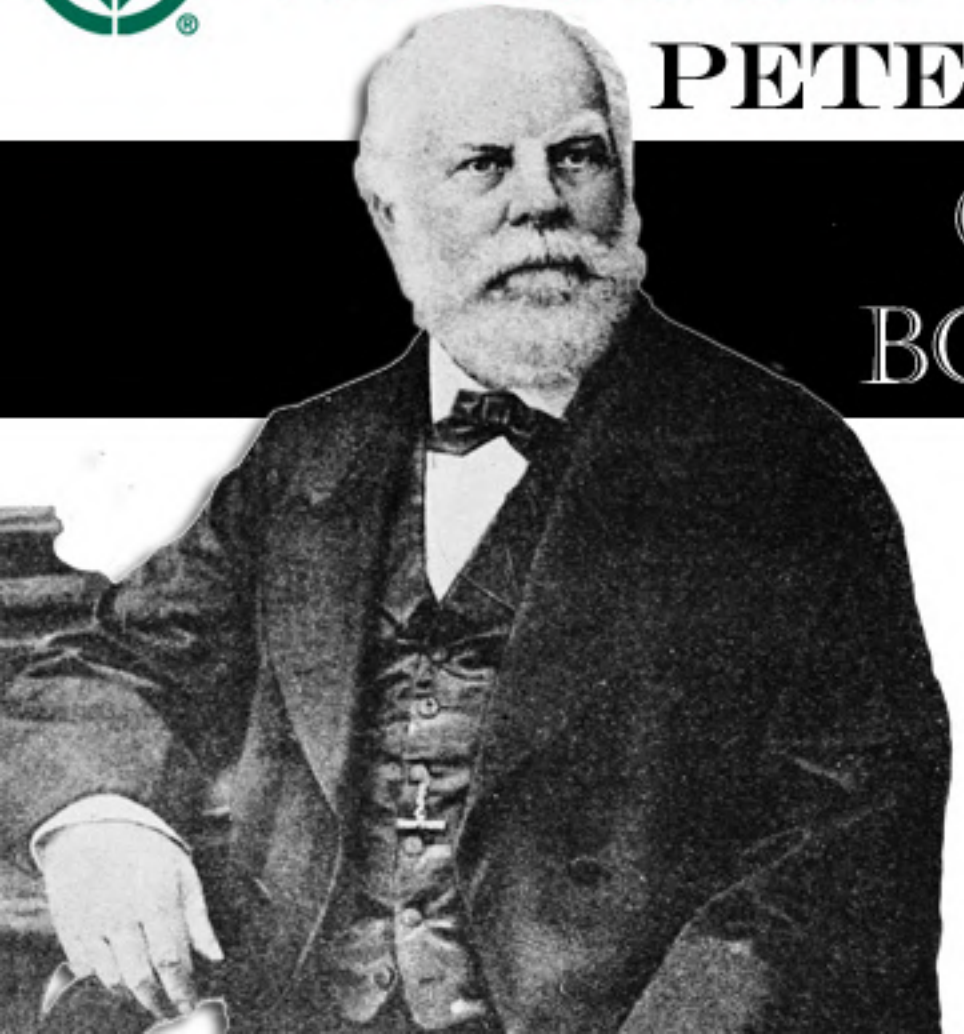
Missouri Botanical Garden

Peter H. Raven Library

George Engelmann Botanical Notebooks



Pagination Note:
Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

(* Flora U.S.)

Cuscuta (77. Sp.)

~~A~~ Cuscuta (18. Sp.)

Sec. 1. Eucuscuta (10 Sp.)

§ 1. Longistylae (5 Sp)

pag.

1. Babylonica Auch 461.
2 Epithymum Murr 461
3. Abyssinica Rich 464
4 planiflora Ten. 464
5 Palaestina Boiss 467

§ 2. Brevistylae (5 Sp)

6 brevistyla Bois. 467
7 Europaea L. 468
8 Kurdica Eng 470
9 Persica Don 470
10 Epilinum Weih 470

Sec 2. Epistigma (4 Sp)

11 Kotschyana Boiss 471
12 pulchella Eng. 472
13 pedicellata Led. 472
14 Arabica Fres 472

Sec 3. Clistocrea (1 Sp)

15 capitata Roxb 473

Sec 4 Pachystigma (3 Sp)

16 angulata Eng 474
17 nitida E.M. 474
18. Africana Hochst 475

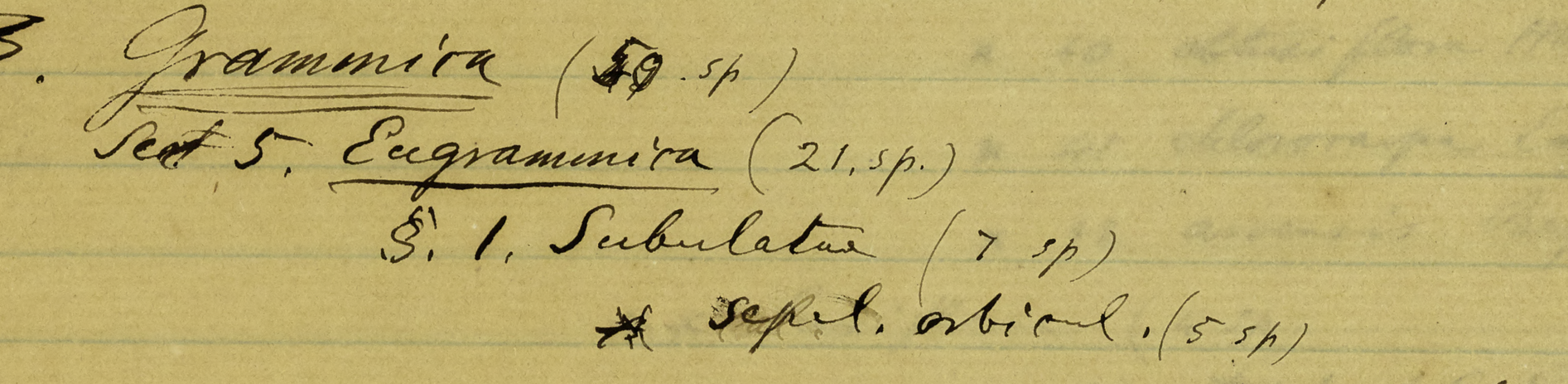
B. Grammica (~~49~~. Sp)

Sect 5. Eugrammica (21. Sp.)

§ 1. Subulatae (7 Sp)

* Sepal. orbicul. (5 Sp)

19 grandiflora Roth 477
20 odorata R.P. 477
21. globiflora Eng 520



MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

5237

22. Jalapensis Schl. 478

23 Chilensis Ker. 478

** Sepal. acuminat. (2 sp)

24 foetida HBK 478

25 acuti Coba Cav 478

S. 2. Obtusi Cobae (7 sp)

* floribus abbreviatis (3 sp)

* 26 applanata Cav 479

27 Chiensis Lam 479

28 tiarioria Mart 480

** floribus elongatis (4 sp)

29. floribunda HBK 481

30 Americana L 482

31 corymbosa R&P. 483

32 pinnatifida Lav. 485

S. 3 Leptolobae (7 sp)

* 33. odontolepis Cav. 486

34 xanthochorta Mart. 486

35 partita Chori 487

* 36 umbellata HBK. 487

37 gracilima Cav. 488

* 38 leptantha Cav 489

39 hyalina Rott 490

Sec. 6. Pleistogrammira (28 sp)

S. 1. Platycarpeae (9 sp)

* sphaerogynae (3 sp)

* 40. obtusiflora HBK. 491

* 41 chlorocarpa Cav 494

* 42 arvensis Desv. 494

** laxiflorae (4 sp)

43 trichostyla Cav. 495

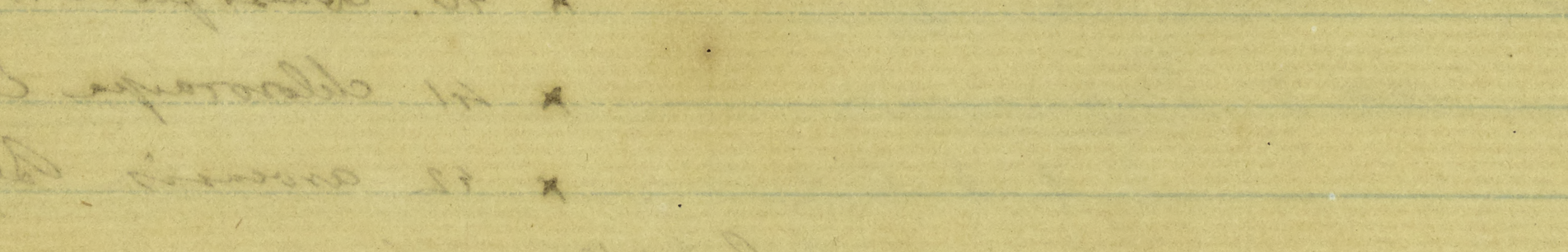
44 gymnocarpa Cav 496

45 Sandwichiana Chori 496

46 acuta Cav. 497

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN


0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI
BOTANICAL
GARDEN

2

*** Paniculatae (2 sp)

× 47 tenuiflora Lag. 497

× 48 Californica Choi 498

§ 2. Oxycarpeae (14 sp)

* Glomeratae (2 sp)

× 49. sabinoluca Dur & Hg. 500

50 micrantha Choi 500

** Paniculatae (12 sp)

† Comiculatae (7 sp)

× 51. decora Choi 501

× 52 inflexa Lag 502

53 appendiculata Lag 503

54 stenolepis Lag. 503

55 comiculata Lag 504

56 racemosa Mart 504

57 paviflora Lag 505

†† obtusi Cobae (5 sp)

58 densiflora Hook.f. 506

59 microstyla Lag. 506

60 cristata Lag 507

× 61 Gronovii Willd 507

× 62 rostrata Shutt 508

§ 3. Lepidanthe (5 sp)

* Paniculatae (2 sp)

× 63. cuspidata Lag. 509

64 bracteata Lag 509

** Glomeratae (3 sp)

× 65 squamata Lag 510

× 66 glomerata Choi 510

× 67 compacta Juss 511

Sec. 7. Labastigma. (1 sp)

68 Tasmanica Lag. 512

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

C. Yamostyla (9 sp)

Sec. 8. Monogynella. (8 sp)

69. exaltata Ly 513

70 cassytoides Nees

71 Timorensis Dne

72 monogyna Vahl

73 Lehmanniana Bunge

74 lepuliformis Krock

75 gigantea Griff

76 Japonica Thois

Sec. 9. Callianche (1 sp.)

77 reflexa Roxb.

A. Cuscuta 18

1 Eucuscuta 10

2 Epistigma 4

3 Cleistocuta 1

4 Pachystigma 3

B. Grammica 50

5 Engrammica 21

6 Cleistogrammica 28

7 Labostigma 1

C. Yamostyla 9

8 Monogynella 8

9. Callianche 1

18

18

50

9

77.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

5238

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

3

Cuscutae of the Flora of the U. S.

A. Cuscuta o

B Grammica (18 sp)

5 Eugrammica (4 sp.)

1,	applanata Eng.	Arizona	p. 479
2.	odontolepis Eng.	Arizona	486
3	umbellata HBK	Texas, N. Mex	487
4	leptanthe Eng	Texas	489

6. Cleistogrammica (14. sp.)

§ 1. Platyfarpeae (5. sp.)

5.	obtusiflora HBK var. glandulosa	Florida - Texas	491
6	chlorocarpa Eng	Delaware. Missouri	494
7	arvensis Beyr	Virgi - Texas	494
8	Teniflora Eng	Illinois - Arizona	497
9.	California Choi	California	498

§ 2. Oxycarpeae (5 sp.)

10	subinclusa Dur & Hil	California	500
11.	decora Choi	Illinois - Florida & Texas	501
12	inflexa Eng.	Virginia - Kansas	502
13	Gronovii Willd	North America	507
14	rostrata Shutt.	Virginia - Georgia	508

§ 3. Lepidanche (4 sp.)

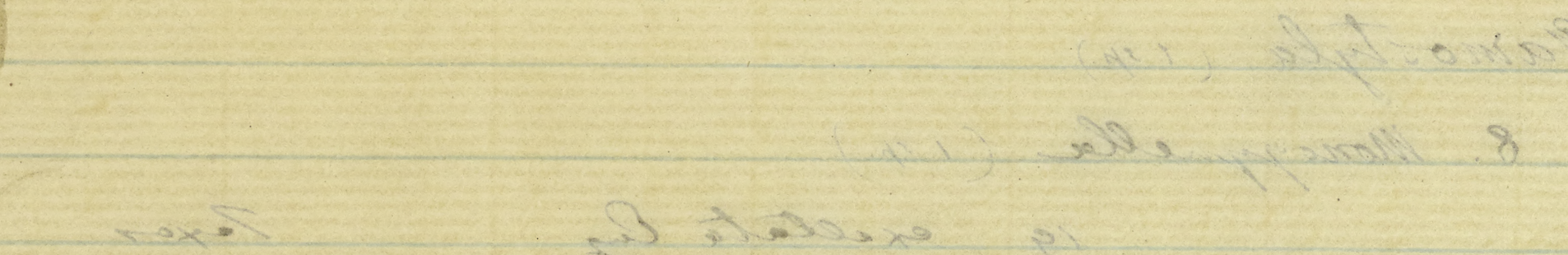
15	cuspidata Eng	Nebraska - Texas	509
16	squamata Eng	N Mexico	510
17	glomerata Choi	Indiana - Texas	510
18	compacta Juss	N York to Missouri Texas	511

C. Gymnostyla (1 sp.)

8. Monogynella (1 sp.)

19	exaltata Eng	Texas	513

0 1 2 3 4 5 6 7 8 9 10 cm
copyright reserved
MISSOURI BOTANICAL GARDEN


0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI
BOTANICAL
GARDEN

	total	Europa		Asia		Africa		America						Australica total		Oceanica	
								N. Am.		Mexico & west I.		South Am.					
		peculiar	in common	per	in C	per	in C	per	in C	per	in C	per	in C	per	in C	per	in common
A. Cusculta	18	0	5	7	7	4	5										18
1. Cuscuta	10	—	5	3	6	1	4	—		—		—		—		—	
2 Epistigma	4	—	—	3	1	—	1	—		—		—		—		—	
3 Clistocrocca	1	—	—	1	—	—	—	—		—		—		—		—	
4 Pachystigma	3	—	—	—	—	3	—	—		—		—		—		—	
B. Gramnica	50	—	1	—	3	1	2	14	4	4	6	18	6	42	11	5	2
5 Eugrammica	21	—	—	—	2	—	1	3	1	4	3	9	3	19	—	—	1
6 Cistogrammica	28	—	1	—	1	1	1	11	3	—	3	9	3	22	1	4	1
7 Lobostigma	1	—	—	—	—	—	—	—		—		—		—		1	—
C Gamostyle	9	—	2	5	2	1	—	1	—	—		—		1	—	—	
8 Monogynella	8	—	2	4	2	1	—	1	—	—		—		1	—	—	
9 Calliandre	1	—	—	1	—	—	—	—		—		—		—		—	
Cuscuta 77		—	8	12	12	6	7	15	4	4	6	18	6	42	1	5	2
			8		24		13		19		10		24		43		7

5239

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

4

Distribution of Cassiteae

A. Cassyta. 18 sp.

Europe	5 species	none peculiar
		2 also in Asia
		3 also in Asia & Africa
Asia	14 species	7 peculiar
		2 also in Europe
		2 also in Africa
		3 also in Europe & Africa
Africa	9 species	4 peculiar
		2 also in Asia
		3 also in Europe & Asia
America	none	
Oceanica	none	

B. Grammica 50 sp.

Europe	1 species	none peculiar
		1 also in Asia, Africa, America, Oceanica
Asia	3 species	none peculiar
		1 also in Oceanica
		1 also in Africa
		1 also in Europe, ~~Africa~~, America, Oceanica
Africa	3 species	1 peculiar
		1 also in Asia
		1 also in Europe, Asia, America, Oceanica
America	42 species	41 peculiar
		1 also in Europe, Asia, Africa, Oceanica
Oceanica	7 species	5 peculiar
		1 also in Asia
		1 also in Europe, Asia, Africa, America

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Distribution of Carex (cont.)

C. Jamostyle — 9 species

Europe	2 species	none peculiar
		2 also in Asia
Asia	7 species	5 peculiar
		2 also in Europe
Africa	1 species	1 peculiar
America	1 species	1 peculiar
Oceanica	none	

Carex

Europe	8 species	none peculiar
		4 also in Asia
		3 also in Asia & Africa
		1 also in Asia, Africa, America & Oceanica
Asia	24 species	12 peculiar
		4 also in Europe
		3 also in Africa
		3 also in Europe & Africa
		1 also in Oceanica
		1 also in Europe, Africa, America Oceanica
Africa	13 species	6 peculiar
		3 also in Asia
		3 also in Europe & Asia
		1 also in Europe, Asia, America Oceanica
America	43 species	42 peculiar
		1 also in Europe, Asia, Africa & Oceanica
Oceanica	7 species	5 peculiar
		1 also in Asia
		1 also in Europe, Asia, Africa & America

0 1 2 3 4 5 6 7 8 9 10 cm
copyright reserved
MISSOURI BOTANICAL GARDEN

5240

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

5

Cuscutae Americanae

I. Cuscuta none

II Grammica 42 spec.

Eugrammica 19 sp.

North America 4 spec. 3 peculiar
1 also in middle & South A.

Mexico & Westindies 7 spec. 4 peculiar
2 also in South Am
1 also in North & South Am

South America 12 spec. 9 peculiar
2 also in middle Am.
1 also in middle & North Am.

Cleistogrammica 23 sp.

North America 14 sp. 11 peculiar
2 also in middle & South A.
1 also in middle & South Am
Europe, Asia, Afr. & Oce
None peculiar.
2 also in North & South Am
1 also in N. & South Am.
Europe, Asia, Afr. Oce.
9 peculiar
2 also in North & South A.
1 also in North & South A
Europe, Asia, Afr. Oc.

III. Jamostyle 1 spec

Monogynella 1 spec

North America 1 spec. 1 peculiar
Mexico & Westindies none
S. America none

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

5241

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

vol IX, the Author of many of these separations of convolvulaceæ given adding the property of keeping Carruth united. It is probable that the great subdivision of Convolvulaceæ is partly ~~that~~ [illegible] by it heresy or [illegible] at least convenience [illegible] (rowds of species — & so very large a number of species — That head of expansion however can have no particular value and can not be pleaded in regard to such a natural, easily recognized & not too numerous genus. It will be shown moreover that the subdivisions offered are not always very sharply characterized and seem often to coincide with an earth.

They are based as has been stated on the shape of the style, ~~[illegible]~~ and on the Capsule.

The Styles are divided or usually separated, or they are united almost only or in their whole length. The stigmata are filiform, of the same thickness as the style or thicker, or they are ~~[illegible]~~ thicker, cylindric or oblong or they are ~~globose~~, or rather capitate hemispherical or they are subulate for a thick base, or confined the globose, as they are usually called, or rather capitate hemispherical or ~~[illegible]~~ flattened at the upper surface, flat or impressed on the lower one, where they are attached with the style. In a single species the stigma on the style is clavate, with

5242 1

Systematic Arrangement of the Species of the Genus Cuscuta, with critical remarks on old species & description of new ones.

By J. Engelmann

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

~~Some observations on the North American species published 17 years ago, in the~~

The Genus Cuscuta can not be separated from the natural order of the Convolvulaceae to which it has been attached by almost every botanist. Nor ought such a natural genus be separated by artificial characters into a number of new Genera as has been lately attempted, and which contain or consist of parasites offering themselves very little variety in habit, but which would be characterized by the embryo is rather very peculiar, being more minute, & consisting of a stem & cotyledons, the usual acceptation of the terms, and a stem, often at least, with alternate rudimentary leaves, rather than Cotyledons.

to subdivide the genus are found in the shape of the styles and stigmata, and or the fruit. These characters, it must be admitted have been adopted in separating the old genus Convolvulus into many genera and even tribes, and analogy would justify or even require a similar separation of Cuscuta, but even closely in Mr. Choisy's Monographs of the DC Prod

vol

Carpels.

a flat or rather impressed, and perhaps slightly thickened stigma, placed at the margin, at the end.

The Capsules are either dehiscible, opening at maturity transversely by a regular fissure or they burst transversely with an irregular, jagged margin, or they remain closed, and either fall out of the Calyx (persistent) or they finally fall off with the Calyx.

Between the styles, of the ripe and dry capsule an opening is observed, parallel (with or transverse) to the stigma disepiment, or more or less thoroughly formed by an incomplete separation of both carpels which compose the capsule. This separation takes place in the (at the back) part of the disepiment which lies next to the (triangular) below the styles, which with the Calyx remains attached (adheres) to the top, while the greater (obovate) part of the disepiment, the septa of the (obovate shaped), remain attached to the base of the capsule in the Calyx (tube).

In most instances the styles portion of the disepiment as I will call this triangular part, adhering to the base of the styles, does not as has been stated by Griffith, Dennstedt, open into the cavity of the Capsule, nor does it give egress to the seeds i.e. not viviparous capsules, but the interior style opening remains an extended funnel shaped slit, and there is [illegible]

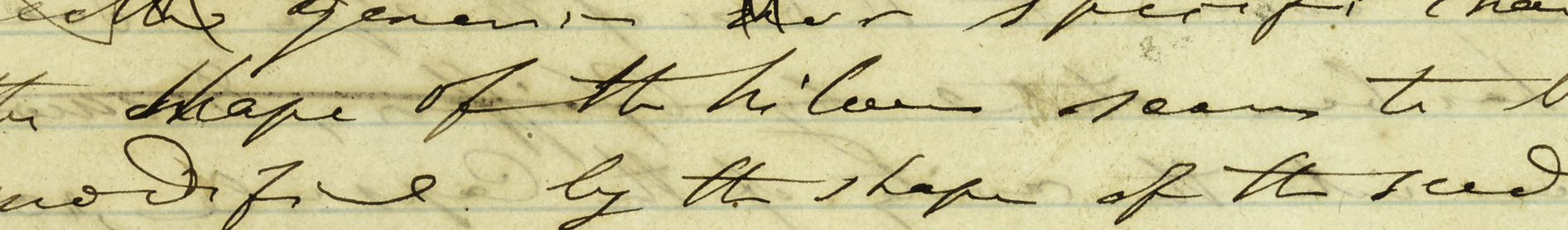
MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

5243

The case with the Mount on all Asem-
Cucurbitaceae, I do others. it does open into the
Cavity, interior of the Capsule but with
much too small an opening; to admit left the seeds out
to the seeds, nor would they be required
as they are Cucurbitaceae with comminicable
capsules. In some few species I find
the stylar portion of the disepiment divided into two halfs,
and in C. pedicillata these halfs are widely
separated from another & adhere to the opposite
halfs in such a manner to form an open transverse to the
dissepiment. —

~~The flowers of Cucurbitaceae are~~

~~both Staminate which I at one time~~
myself relied on the distinguishing character
for genera — distinct of Cucurbitaceae is the fact,
that usually in gamocarpellous but in
fruit in some these ripens entirely
distinct adjacent capsules, not differ
from the fruit; bracts, ~~which~~
~~also be regarded~~ Stigma of the Cucurbitaceae
vine ... a character which
prevails in Cucurbitaceae proper, where
only Wilsonia ~~has~~ is known
The seeds of Cucurbitaceae do not differ
to me with any genera Nor specific characters
the shape of the kilen seems to be
modified by the shape of the seed,
which depends on the development of
one or a few or all ~~of~~ ovules
in the capsule. — The surface of the seed dries
in all over rough, or papillose or reticulated,



in some more, in others less, but not ~~discernible~~ appreciable characters I can not derive from these markings, (such as are to be had in Carpels or in Nectaries and many other genera)

It is rarely necessary to allude to the fact that the flowers are typically perfect, but that is to species that are found (rarely or never) in which the carpels are imperfect.

The specific characters of Cercocarpus are found in the inflorescence, ~~character above given entered on~~ ~~character~~ modification of the "inflorescence" in the absence of the petals (which however is not always a good character) in the to some extent found in the stem, which is thin, papillary or thick, as well as thick as a quill. ~~depending on the shape of its~~ ~~scales (leaves)~~ but principally in the inference and the different organs of the flower with it, together with the +

The inflorescence offers good characters, less important in the presence or length of the pedicels, ~~the~~ the size of the flowers of the ~~the~~ is variable. though it ought not to be ~~the~~ + the presence or absence of bracts in the inflorescence and their shape is important

5244

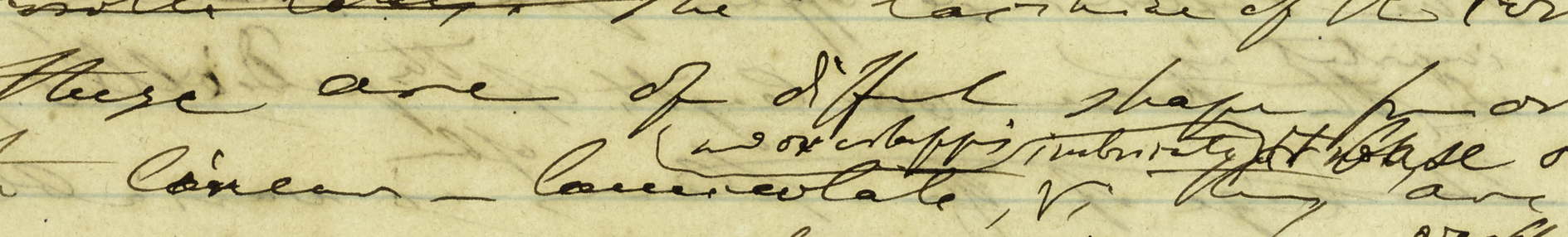
MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

The size of the flowers varies, much more important is their general shape depends on the shape and relative proportion of calyx & corolla and their parts. (tube and lobes). The calyx lobes are more or less deeply divided or they are united so as to form an almost truncate calyx. they are valvate not or they overlap more or less. their cover is rather variable and depends on the more or less vigorous growth and rich pasture of the parasite, which and exceptional more or less vigorous growth of the parasite.

The calyx is more or less regular, triangles corresponding with the number of the petals, or to the lobes of the petals. The texture of the calyx is thin membranous, or it is fleshy and not rarely with glandular hollows which give it a warty appearance.

(#) below) It is never entire or circulate, but it is found but very often bevo so at the border of the capsule. The lobes of calyx & corolla are

The lobes of the corolla vary from it is either cylindric or it is (shallow) campanulate or with hemispherical or ovate (#) it is longer or shorter than the calyx, longer or short or often of equal length with the calyx lobes. The corolla of the corolla, these are of different shape, orbicular to linear lanceolate, (more or less rhombic) ovate or not or spatulate or reflexed. It often differs in the different stages of flowering. the petals are often reversed on the lateral margins involute or revolute.



Corolla

The texture of the corolla is variable, thin and membranous, thick and fleshy and sometimes very tough. Usually with a smooth or glandular exterior or papillose. The latter character appears so well suited to function specific distinction proves to be of very subordinate value, it is common or well known genera (C. glabra C. labiata C. decora etc) As far as a particular corolla or at least a form which I can not distinguish by any other character but this from the corresponding form, and which exhibits transitions; this particularity corresponds to the puberulence of other plants, which also ~~is a variety~~ often is so very variable.

~~The flower the corolla antepenultimate~~ The flower

The calyx is always persistent, and the corolla ~~is always entire~~, is deciduous ~~only~~ in one section of the genus (C. reflexa Schlecht.) and in very few species. The calyx is more or less adherent at the base of the capsule (only in some species) or it envelopes the capsule covering it top, without loosing hold of it, persistent at base; or, as that is the ordinary case, it rises calyptra like the top of the capsule becoming detached from it base and usually split below ~~and loose~~ in ~~several~~ two parts, corresponding to the ~~5~~ lobes of the corolla.

The ~~filaments~~ stamens are usually inserted in the very throat of the corolla either alternately with the lobes of the corolla or ~~rare~~ extensively covered by the overlapping edges (these differences

5245

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

are not always constant in the same species but vary according to the luxuriant growth of the [illegible] specimen.); or they are inserted below the throat of the tube (only in Mouardella or at the base and Collinsonia), ~~they are~~

The anthers are sometimes sessile, but usually ~~base~~ form on ~~short~~ cylindric, or ovately flattened, linear or subulate filaments of different length, usually longer than the ~~the~~ corolla. ~~The anthers~~ are of different ~~shape~~, ~~size~~, oblong, ovate, sagittate, oblong or linear, but the shape does not seem to affect (reliable) very ~~much~~ character in the genera; they vary from oblong to ovate to sagittate, and show at the tip an apicular prolongation of the connective or are destitute of it in the same species

~~Any distinction or~~ The

One of the most remarkable organs of the flower of Cannaceæ are the epistaminal scales ~~fringed, and of the~~ which are attached to the lower part of the filaments where they are connated with the tube of the corolla. The simplest form of the organ (as in C. iridiflora C. chloroscapa & others) shows a few teeth or lobes laterally attached to the portion of the filament; ~~lobes~~ these lobes become larger and form two lateral wings ovate or fringed at the exterior side & at top the end; then next step is that those lobes partly unite at their free upper end, forming one lobed scale; finally they unite

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Carpels entirely free, sessile, a rounded more or less ovate or fusiform scale; which is either compressed to the side of the ovule tube or between the tube of the Corolla & the ovary or ~~the~~ ovules, & covering over the top. Toward the base the scales are always distinct, adnate in the middle or more properly attached to both sides of the adnate filament; their bases usually connect with one another forming an inverted arch.

In a very few species only these scales are entirely free; viz: C. quadriflorum & C. pusillum of South America; (C. pedicellatum of South America) C. californicum and C. hypsalum of California. In Carpels California the inverted Arch alone is present, connecting the base of the filaments. I am not acquainted with any exceptions to this rule. These scales are evidently lateral dilatations of the upper part of the filament, perhaps of the character of stipules as Dr A Braun suggests, and form a sterile crown, attached at base to the ovules, but not a duplication of the ovule, evidently the character of the form of the scales furnishes some of the best characters in these genera, but they are not entirely reliable and vary considerable in some species & also in other they are constant enough.

The ovary and pistil are more reliable; the ovary is depressed or conical or umbonate at top the upper part supporting the styles being often thickened.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

5246

it fills the whole cavity of the Corolla, or
even protrudes from it, or it is much smaller
The styles are long or short, subulate or terete
capitate, but the latter protrudes
from the corolla, which [illegible] in
D C. Prod. is made one of the principal characters
is generally if not with great exportunes
as they caught my mind during the growth
of the fruit, and been extent with age,
and even during the flowering they are
not equally long in [illegible] th for 7 years,
and are exsert or included in different
varieties of one species.

Of the figures I have treated above,
the capsule and its relation to the
Marcescent Corolla I have also spoken of
(with reed)
X, above & see page 6 2

I am afraid that throughout my papers
published 1842 I have encouraged the notion
that the different species of Carex

formation
seem to have a predestination for certain
plants or families of plants, and I
myself have at a time thought to
discover an influence of the more plentiful
or better nursing plant on the appear-
ance of the parasite. But I have
fully convinced,
become that their influence
is very limited and probably goes no
farther than the influence of rich or poor
soil and of good Manure would go with
any ordinary plants. Most Eupatorium

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Cuscuta

grow on succulent Dicotyledonous herbaceous plants, some few prefer shrubby or semi-shrubs, and most affect Monocotyledons and even the Grasses. A few attack Lianes, shrubs, and trees — of course only their smaller and weaker with tender bark limbs. Cuscuta are occasionally found on poisonous plants — as I have seen them on Euphorbias or Rhus toxicodendron, or Cicuta and also on Gramineae and other Monocotyledons. The fact is that when once attached to a nursing stem, they throw out their haustoria and attach themselves to any plant in the neighborhood and grow if any nourishment can be obtained from it. — C. reflexa is common in the neighborhood, but where the dry pure soil suits it, and with kept shrubs, produces a growth of solid hay, it grows there just as well, or even occasionally attaches itself to a shrubby Fuchsia (Conservatory grown) among the hay.

The haustoria of the Cuscutas are deeply penetrating to the tissue of the nurse plant and they are able to reproduce the with parts of the stem included to the tissue of the plant after all cuticular vestiges of the Cuscuta have been rubbed off. Also the Gardens of the have obtained to deplore with the variety of C. Epithymum, which has been sent to the Greenhouses in Europe, and I have seen it in different years, which I have had under cultivation, as well with that of C. reflexa.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

pg 5 =

XII As almost all the characters enumerated above are more or less variable, it not rarely occurs is necessary to look for the base the diagnostic character of a species in a combination of a number of characters. But as the value of these characters is necessarily differently estimated by different writers, it cannot not fail that what is considered as variety by one will look at as well characterized species.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Carex

The species of themselves in ~~according to their~~ styles, ~~Those~~ Cyperus ~~proper~~ stigmata may be

X Monogyna Those Grammica with 2 styles and abbreviated, usually capitate stigmata.

More Monogyna with united styles, and capitate ovate or conic stigmata.

The capsule is usually circumscissile in the first, sometimes so in the latter group. The 2 valved opening of the capsule is present in both the first and third and absent in the 3d group.

The dead corolla covers the whole or the top of the capsule always in the first, it is found on top or at base of the capsule in the 2d and always on top of the 3d, if not deciduous

Cuscuta

and only temporarily
and have rarely been introduced by culture in America

in the 3 groups.
species of the
The first group are exclusively native
of the old world; the second group, the
numerous, abound in America, and Oceanica
and the southern and eastern coasts of Asia;
(and penetrate(s) there in a few species into
western Asia and even southern Europe; the
cultivation has temporarily introduced one
central
species into Europe. The third group
on the contrary, distinguished by its large
stigmas
extends into Asia, but its representation at Europe
that it
is the Cape of Good Hope; in the Center
the Ltd of Europe and in America (Texas)

~~The sections of~~

I propose the following subdivision of the
genus Cuscuta
~~the~~ groups sections of Cuscuta
are proposed.

A. Cuscuta - group.

1. Eucuscuta. styles nearly as long or longer (than
the stigmata, filiform); capsule (and as thick or thicker
globular
sessile.

2. Epistigma styles nearly obsolete, (stigmata nearly sessil subulate)
capsule transversely bursting without a
regular jointed separation.

3. Cleistocuscuta subulate styles longer than the globular
short stigmata; capsule bivalvate.

4. Pachystigma cylindric or ovate stigmata
thicker than the filiform styles; capsule
ovate-sessile.

0 1 2 3 4 5 6 7 8 9 10 cm
copyright reserved
MISSOURI BOTANICAL GARDEN

5248

B. Psammia - group

5. Chaenogrammia ~~Styles ca~~ stigmata capitate, capsule more or less irregularly carinate-dehiscent

6. Eugrammia stigmata capitate, capsule erect

7. Labostigma top of styles dilated at tip, upper lobed surface stigmatose.

C. Monogynella - group.

8. Monogynella ~~Stigmata~~ stamens 3 lobed, or distinct, capitate, ovate, ~~capsule covered~~

9. ~~with~~ Callianche stigmata subulate (or conic) ovoid capsule 4 valved.

Carpels see Mss.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN